

XLIV.—*Information respecting Scientific Travellers.*

LETTER FROM EDWARD FORBES, ESQ.

London, Nov. 15, 1842.

DEAR SIR,—When your announcement of my proposed Egyptian movements came out in the 'Annals' on the 1st of November, I was undergoing the miseries of quarantine on board the Iberia steamer in Stangate Creek. Instead of leaving Smyrna for Alexandria I embarked for London on the 2nd of October, and after a slow and stormy passage reached England by the end of the month. A steamer is not the best conveyance for a naturalist; its way is too speedy and frothy for marine observations. During a few hours' stoppage at Gibraltar, however, I had an excellent opportunity of drawing and dissecting a beautiful Medusa of the genus *Pelagia*, one of the most phosphorescent of the larger species. Gibraltar bay abounds in marine animals, and under more favourable circumstances I might have reaped a rich harvest; as it was, I only secured the *Pelagia* and a number of specimens of the *Salpa maxima*. Almost every specimen of the last-mentioned curious mollusk which floated by the ship was deprived of the dark red visceral mass which is lodged in a cartilaginous ball at the posterior extremity. On examination I found the test of such mutilated animals to be perforated above the site of the viscera, and not long after saw the cause in a fierce attack on a squadron of *Salpæ* by an army of gulls, who ferociously imitated the eagles which tormented Prometheus by picking out the livers of their victims, untouched the less delicate parts of their bodies. Nevertheless the *Salpæ*, *de-livered* from the grasp of the gulls, swam away without livers and ovaries, with apparently as much vigour as before their misfortune.

Before leaving Smyrna I dredged the Gulf, with results of considerable interest, and following in the footsteps of my friend Mr. Strickland, examined the geology of that beautiful district.

Though my personal researches in the Ægean are over, yet, I trust, natural history will gain much more from that quarter. I have left an active staff of naturalists behind me in the officers of the survey, who are forming collections in all departments with great success, under the auspices of the head of the survey, my most excellent friend Capt. Graves, who will with the greatest delight assist in every way in his power any British naturalist who may select the Archipelago for the scene of his travels and studies.

Ever, dear Sir, most sincerely,

To Richard Taylor, Esq.

EDWARD FORBES.

MR. SCHOMBURGK.

Letters have been received by the Geographical Society from Mr. Schomburgk, by which it appears that he had explored the river Takutu to its source, in about $1^{\circ} 45'$ N. lat. The Takutu is a tributary of the Rio Branco, into which it falls at San Joachim; and its source is so far to the eastward, that Mr. Schomburgk procured bearings of

his old acquaintances, the Wauguwai and Amucu mountains, near the junction of the Yuawauri with the Essequibo. The highest mountains in the vicinity of the Upper Takutu cannot be less than 5000 feet. All the mountains are granitic, with masses of quartz, but no igneous rocks were seen. Mr. Schomburgk has made observations of the magnetic intensity at Waraputa, at Pirara, and near the sources of the Takutu, &c. The tropical winter commenced on Sunday the 29th of May, an uncommonly late period. He has subsequently returned to Demerara in good health. We learn also that one of the silver medals of the Société de Géographie of Paris has been awarded to him for his researches in Guiana.

Notice of the Vegetation in the neighbourhood of Georgetown, Demerara, in a letter from Dr. W. H. Campbell to Professor Balfour, dated Aug. 16th, 1842.

Dr. Campbell writes, "I have only had two days' recreation since I arrived in this country, and one of these I devoted to a regular exploration into the Bush, about nine miles up the Demerara river. Some of the vegetable wonders and novelties I saw were truly magnificent, the luxuriance of the vegetation surpassing anything you can conceive. Every inch of ground was occupied, and the eye looked in vain for any spot which nature had left unclothed and less bountifully supplied than that immediately around you. Indeed, it seemed as if there was one dire scramble for existence, and that each was striving with might and main to reach the upper light and air, lest, being left behind in the race, the forfeiture of life should be the penalty. Rapid as is the growth of these children of the forest, no less rapid is their decay; and race after race spring into being, rear their heads ambitiously for a while and pass away, to be succeeded by their children, who scramble over them with parricidal haste. A slower but no less certain fate awaits the oldest denizens of the forest. A climbing palm sending forth his grappling arms clutches one in his embrace, and gradually spreading and accumulating a huge weight of vegetation upon him, some gigantic limb, or the whole tree, destroyer and destroyed, are borne to the earth; the one to die, but the other—the immortal palm—to rise again, and continue with renewed vigour and pliant limb his onward and destructive progress. Others again, like the monarchs of the forest, still rear their heads triumphant; but they too must die, for the bush-rope is festooning his branches, epiphytes are insinuating themselves in every crevice, and the birds are daily sowing the seeds of vines and parasites, which, although apparently renewing the youth of the tree and decorating it with the most graceful drapery, are eating into its very vitals and feeding on its heart's blood, till limb by limb down goes the old veteran at last,—a noble wreck amidst the upstart generation who are rising around him and hastening his decay. The insidious fungus soon completes the wreck, and fibre by fibre the giant trunk is resolved into its pristine elements.

"One of the species of bush-rope which I saw is most curious, and by far the most fantastic production of nature I have ever met

with. Suppose a tolerably large wide-spreading tree with naturally rather rugged and picturesque branches, forming a canopy overhead and a tolerably clear space below. On this tree were suspended a multitude of large bunches of papilionaceous flowers, the product of a climber which had enveloped the tree. At first I could not perceive the mode in which the flowers were suspended, and I gazed with astonishment, thinking that it was by no means impossible that some of these unaccountable pendants would drop down upon me to satisfy my curiosity. The flowers were like clusters of grapes of a claret colour, and the elongated petiole from which they were suspended varied from five to ten feet in length, without a vestige of a leaf, bractea or scale upon it, resembling considerably in colour, size and substance the appendages by which *Stratiotes Aloides* is moored to the bottom of the water, when the plant floats on the surface during the flowering season. So unnatural-like was the whole affair, that it was really difficult to suppose that Nature had any hand in it, for it more resembled the work of a parcel of monkeys, who, having culled the flowers, had amused themselves by suspending them from the branches with pieces of packthread,

“ Another thing which struck me particularly during my ramble was a beautiful fern; it was seven or eight feet high with peculiarly graceful fronds, resembling in some degree *Attyrium Filix femina*; but its principal peculiarity to my unpractised eye was in being densely covered on the rhachis with large aculei resembling those on the rose-bush, and quite as penetrating*.

“ I think I have mentioned to you before a tree called trumpet wood (*Cecropia*), very common in the bush, and which springs up very rapidly in abandoned cane pieces. I had an opportunity of inspecting it to better advantage lately when some trees were felled, and I was surprised to find that the leaves at the summit bear a considerable resemblance to a coarse umbelliferous plant, such as *Heraclium flavescens* (*Sibericum*, L.); and the tree is of such a soft spongy texture in the young shoots, that if they were detached there would be some difficulty in saying whether they belonged to a tree or a herbaceous plant. The tree ranges from fifteen to forty feet high, with a straight trunk, destitute of branches, until it ends in a crown of large leaves.

“ As good an instance as I have seen of the rapidity of growth here, is a silk cotton tree (*Bombax Ceiba*) in the ground attached to the house where I am now living. It was planted fourteen years ago, and now resembles in trunk, in limb, and in height, a huge oak of a century. It is really a magnificent tree, and one of the largest and finest to be seen about Georgetown; and yet it seems but of yesterday, when one looks back to the date when it was planted. The trunk is of great girth at the base, owing to the roots being to some extent superficial, and of an unwonted size. They have a peculiarly flattened and compressed appearance, with their sharp edges projecting from half a foot to a foot above ground, and they extend to an immense distance, threatening even to undermine the house,

* The fern is probably a species of *Hemitelia*.—J. H. B.

which they would have done had not a trench been dug and the main roots cut across in that direction. The stem is densely covered in some parts, and more sparingly in others, with very large spines, which are from an inch to two inches long, and singularly hard. The tree is casting its leaves at present, and the period of hybernation or rest is indeed short. In a few days from the time when the leaves first begin to fall the whole of the glorious foliage is gone, and the naked branches remind you of the winter livery of trees in our northern clime; but it may in all truth be said that the old leaves are pushed off by the new ones, for as the old leaves fall the buds swell, and the last leaf has not left the tree ere the new foliage begins to unfold; and as with the rapidity of an enchanter's wand, winter passes away, and the beautiful livery of spring is arrayed before you. Such is the process twice every year; so what becomes of the theory of the necessary rest for plants which winter periodically affords? Nor do I quote a single instance; the same biennial return of autumn and spring, of seed-time and harvest, seem to be common to almost every tree and shrub, so far as I have been able to learn or observe. I should have mentioned, that this tree, differing from most others, rarely produces fruit oftener than once in five years, and then its profusion of cotton becomes a downright nuisance, penetrating everywhere, and absolutely choking you with cotton wool.

“Next to the silk cotton tree grows a sandbox tree (*Hura crepitans*), likewise planted about the same time, and of equal magnitude with the other. It has leaves somewhat between the lime-tree (*Tilia*) and the elm, with the graceful regular and depending branches of the beech.

“In the garden grows what I take to be a very rare plant here, the *Garcinia Mangostana*, Mangosteen, which is not indigenous in the colony. The tree ought to be generally introduced for the sake of its fruit, which is said to be excellent.

“I saw a wonderful branch of plantains exhibited the other day. It had not arrived at maturity, but had fallen from its own weight, and although mutilated by the fall and in some degree curtailed, yet it weighed 112 lbs. There were about 200 plantains on the branch, from eight to ten inches long, and it was estimated by skilful plantain-growers, that if it had been allowed to ripen it would have weighed at least 40 or 50 lbs more. The productiveness of the plantain in this country certainly exceeds anything I had previously conceived. A plantain-walk in bearing requires scarcely any attention beyond weeding and watching. A gentleman here has fifty acres of plantains now in progress, and he tells me that the average crop will probably be 10,000 or 12,000 branches annually, which at a guilder a-piece (the lowest price), equal to 1s. 4d. sterling, you will see would realize a very handsome annual profit after paying all the expenses.

“Of the plants mentioned in your list I see a good many growing around me in the garden and shrubbery, such as the black-eyed pea, pigeon pea, buona vista pea, lemon, lime, orange, cassava, guava,

tamarind, granadilla, capsicum, mango, sapodilla, quassia, &c. The okra or ochra (*Hibiscus esculentus*) is an exceedingly common vegetable, the capsules before they are ripe being boiled and made into soup, yielding a large quantity of mucilage which is nutritive and aperient. The sea-side grape (*Coccoloba uvifera*) is abundant, and the fruit I have often eaten; it resembles in flavour a fully ripe sloe, and has a most disproportionately large stone.

“ I have observed here one tree previously unknown to me, which I am told is a gamboge tree yielding a pigment*. Another tree, called *Orinogue* or *Bois immortelle*, puzzles me, as I can find no trace of it under either of these names. It grows with amazing rapidity, and bears an enormous profusion of leguminous flowers of a flesh and scarlet colour. These flowers are very thick and substantial in their petals, and of a large size, tumbling off the tree in great quantities without ripening their fruit †.

“ I still think the cabbage-palm here is different from that so called in the Edinburgh Botanic Garden.”

BIBLIOGRAPHICAL NOTICES.

The Botanical Text-Book. By ASA GRAY, M.D., Fisher-Professor of Natural History in Harvard University. 12mo, pp. 413. New York, 1842.

WE have carefully perused this work, and have much pleasure in recommending it to the attention of all students of botany. It gives a comprehensive view of the present state of botanical science, and is written in a clear and lucid style, so as to render it accessible to all classes of readers. It is divided into two parts: 1. an introduction to structural and physiological botany; and 2. the principles of systematic botany, with an account of the chief natural families of the vegetable kingdom, and notices of the principal officinal or otherwise useful plants. The work is illustrated with engravings on wood, which are highly useful to the student.

In giving a short notice of some of the contents of the work, we shall confine our attention chiefly to those subjects concerning which some differences of opinion exist among botanical writers.

In speaking of the changes which the leaves of plants produce on the air during day and night, Dr. Gray remarks,—“ It is by an entirely false analogy that the loss which plants sustain in the night has been dignified with the name of *vegetable respiration*, and vegetables said to vitiate the atmosphere, just like animals, by their respiration, while they purify it by their digestion. Respiration is merely a part of digestion: in animals it consists in throwing out the excess of carbon which their highly *carbonized* food contains; in vegetables it consists in the elimination of the superfluous oxygen of their highly *oxidized* food.”

* This is probably a *Vismia* belonging to the natural order *Hypericaceæ*.—J. H. B.

† Probably *Cæsalpinia pulcherrima*, or Barbadoes pride.—J. H. B.